Andreas S Bommarius

List of Publications by Year
in descending order

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106 papers	5,401 citations	94381 37 h-index	88593 70 g-index
111 all docs	111 docs citations	111 times ranked	5190 citing authors

#	Article	IF	Citations
1	Stabilizing biocatalysts. Chemical Society Reviews, 2013, 42, 6534.	18.7	396
2	Stability of biocatalysts. Current Opinion in Chemical Biology, 2007, 11, 220-225.	2.8	367
3	Modeling cellulase kinetics on lignocellulosic substrates. Biotechnology Advances, 2009, 27, 833-848.	6.0	347
4	Synthesis and use of enantiomerically pure tert-leucine. Tetrahedron: Asymmetry, 1995, 6, 2851-2888.	1.8	248
5	Development of an Amine Dehydrogenase for Synthesis of Chiral Amines. Angewandte Chemie - International Edition, 2012, 51, 3969-3972.	7.2	230
6	Status of protein engineering for biocatalysts: how to design an industrially useful biocatalyst. Current Opinion in Chemical Biology, 2011, 15, 194-200.	2.8	190
7	Cellulase kinetics as a function of cellulose pretreatment. Metabolic Engineering, 2008, 10, 370-381.	3.6	157
8	Enzymes in reversed micelles as catalysts for organic-phase synthesis reactions. Industrial & Engineering Chemistry Fundamentals, 1986, 25, 603-612.	0.7	151
9	Oxidoreductase-Catalyzed Synthesis of Chiral Amines. ACS Catalysis, 2018, 8, 10985-11015.	5.5	150
10	Recent Advances in Ï‰-Transaminase-Mediated Biocatalysis for the Enantioselective Synthesis of Chiral Amines. Catalysts, 2018, 8, 254.	1.6	139
11	Biocatalysis: A Status Report. Annual Review of Chemical and Biomolecular Engineering, 2015, 6, 319-345.	3.3	128
12	The Evolution of an Amine Dehydrogenase Biocatalyst for the Asymmetric Production of Chiral Amines. Advanced Synthesis and Catalysis, 2013, 355, 1780-1786.	2.1	126
13	Fluorescence imaging using synthetic GFP chromophores. Current Opinion in Chemical Biology, 2015, 27, 64-74.	2.8	120
14	Development of a Thermostable Glucose Dehydrogenase by a Structureâ€Guided Consensus Concept. ChemBioChem, 2007, 8, 2295-2301.	1.3	117
15	Long-term stability of influenza vaccine in a dissolving microneedle patch. Drug Delivery and Translational Research, 2017, 7, 195-205.	3.0	98
16	The Crystal Structure of NAD(P)H Oxidase fromLactobacillus sanfranciscensis:Â Insights into the Conversion of O2into Two Water Molecules by the Flavoenzymeâ€,â€¡. Biochemistry, 2006, 45, 9648-9659.	1.2	85
17	A novel chimeric amine dehydrogenase shows altered substrate specificity compared to its parent enzymes. Chemical Communications, 2014, 50, 14953-14955.	2.2	84
18	High-throughput screening for enhanced protein stability. Current Opinion in Biotechnology, 2006, 17, 606-610.	3.3	83

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19	Utilizing simple biochemical measurements to predict lifetime output of biocatalysts in continuous isothermal processes. Chemical Engineering Science, 2010, 65, 2118-2124.	1.9	83
20	Better library design: data-driven protein engineering. Biotechnology Journal, 2007, 2, 180-191.	1.8	80
21	Structure-guided consensus approach to create a more thermostable penicillin G acylase. Biotechnology Journal, 2006, 1, 531-536.	1.8	78
22	Biomolecular Assemblies: Moving from Observation to Predictive Design. Chemical Reviews, 2018, 118, 11519-11574.	23.0	71
23	Formate Oxidase (FOx) from Aspergillus oryzae: One Catalyst Enables Diverse H₂O₂â€Dependent Biocatalytic Oxidation Reactions. Angewandte Chemie - International Edition, 2019, 58, 7873-7877.	7.2	67
24	The Hofmeister effect on amyloid formation using yeast prion protein. Protein Science, 2010, 19, 47-56.	3.1	66
25	Biphasic Reaction System Allows for Conversion of Hydrophobic Substrates by Amine Dehydrogenases. ACS Catalysis, 2014, 4, 4021-4026.	5.5	65
26	Deactivation of Formate Dehydrogenase (FDH) in Solution and at Gas-Liquid Interfaces. Biotechnology Progress, 2005, 21, 1663-1672.	1.3	64
27	Energising the E-factor: The E+-factor. Tetrahedron, 2019, 75, 1311-1314.	1.0	64
28	Hydrogen peroxide-producing NADH oxidase (nox-1) from Lactococcus lactis. Tetrahedron: Asymmetry, 2004, 15, 2939-2944.	1.8	59
29	Biological pretreatment of cellulose: Enhancing enzymatic hydrolysis rate using cellulose-binding domains from cellulases. Bioresource Technology, 2011, 102, 2910-2915.	4.8	57
30	Green Fluorescent Protein with Anionic Tryptophan-Based Chromophore and Long Fluorescence Lifetime. Biophysical Journal, 2015, 109, 380-389.	0.2	56
31	The membrane reactor in the fine chemicals industry. Applied Catalysis A: General, 2001, 221, 171-185.	2.2	54
32	Protein engineering of cellulases. Current Opinion in Biotechnology, 2014, 29, 139-145.	3.3	52
33	Improved thermostability of AEH by combining B-FIT analysis and structure-guided consensus method. Journal of Biotechnology, 2012, 160, 214-221.	1.9	48
34	Xanthine Oxidase Reactivity in Reversed Micellar Systems: A Contribution to the Prediction of Enzymic Activity in Organized Media. Journal of the American Chemical Society, 1995, 117, 4515-4523.	6.6	45
35	Established and novel tools to investigate biocatalyst stability. Biocatalysis and Biotransformation, 2005, 23, 125-139.	1.1	45
36	Reactive crystallization: a review. Reaction Chemistry and Engineering, 2021, 6, 364-400.	1.9	43

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37	The Shortâ€chain Dehydrogenase/Reductase Engineering Database (SDRED): A classification and analysis system for a highly diverse enzyme family. Proteins: Structure, Function and Bioinformatics, 2019, 87, 443-451.	1.5	32
38	Pooling for Improved Screening of Combinatorial Libraries for Directed Evolution. Biotechnology Progress, 2006, 22, 961-967.	1.3	31
39	NAD(P)H oxidase V from Lactobacillus plantarum (NoxV) displays enhanced operational stability even in absence of reducing agents. Journal of Molecular Catalysis B: Enzymatic, 2011, 71, 159-165.	1.8	30
40	Metagenomic Mining for Amine Dehydrogenase Discovery. Advanced Synthesis and Catalysis, 2020, 362, 2427-2436.	2.1	30
41	Enzymatic reactive crystallization for improving ampicillin synthesis. Chemical Engineering Science, 2017, 165, 81-88.	1.9	28
42	Mutagenesisâ€Independent Stabilization of Class B Flavin Monooxygenases in Operation. Advanced Synthesis and Catalysis, 2017, 359, 2121-2131.	2.1	28
43	Biocatalytic Reaction And Recycling by Using CO2-Induced Organicâ€“Aqueous Tunable Solvents. Angewandte Chemie - International Edition, 2006, 45, 4670-4673.	7.2	27
44	Accelerated Biocatalyst Stability Testing for Process Optimization. Biotechnology Progress, 2008, 21, 762-774.	1.3	27
45	Coupling chiral homogeneous biocatalytic reactions with benign heterogeneous separation. Green Chemistry, 2007, 9, 888.	4.6	26
46	Crystallization Kinetics of Ampicillin Using Online Monitoring Tools and Robust Parameter Estimation. Industrial & Engineering Chemistry Research, 2016, 55, 2153-2162.	1.8	26
47	Continuous reactive crystallization of Î²-lactam antibiotics catalyzed by penicillin G acylase. Part I: Model development. Computers and Chemical Engineering, 2019, 123, 331-343.	2.0	25
48	Amino ester hydrolase from Xanthomonas campestris pv. campestris, ATCC 33913 for enzymatic synthesis of ampicillin. Journal of Molecular Catalysis B: Enzymatic, 2010, 67, 21-28.	1.8	24
49	Contributions of the Prion Protein Sequence, Strain, and Environment to the Species Barrier. Journal of Biological Chemistry, 2016, 291, 1277-1288.	1.6	23
50	Enzyme-Mediated Conversion of Flavin Adenine Dinucleotide (FAD) to 8-Formyl FAD in Formate Oxidase Results in a Modified Cofactor with Enhanced Catalytic Properties. Biochemistry, 2017, 56, 3800-3807.	1.2	23
51	Informing Efforts to Develop Nitroreductase for Amine Production. Molecules, 2018, 23, 211.	1.7	23
52	Production of active pharmaceutical ingredients (APIs) from lignin-derived phenol and catechol. Green Chemistry, 2021, 23, 7488-7498.	4.6	23
53	Bubble Column Enables Higher Reaction Rate for Deracemization of (R,S)â€1â€Phenylethanol with Coupled Alcohol Dehydrogenase/NADH Oxidase System. Advanced Synthesis and Catalysis, 2019, 361, 2574-2581.	2.1	22
54	Separate Sets of Mutations Enhance Activity and Substrate Scope of Amine Dehydrogenase. ChemCatChem, 2020, 12, 2436-2439.	1.8	22

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55	In Situ Imaging Combined with Deep Learning for Crystallization Process Monitoring: Application to Cephalexin Production. Organic Process Research and Development, 2021, 25, 1670-1679.	1.3	22
56	Ion-specific Effects on Prion Nucleation and Strain Formation. Journal of Biological Chemistry, 2013, 288, 30300-30308.	1.6	21
57	Fully biological production of adipic acid analogs from branched catechols. Scientific Reports, 2020, 10, 13367.	1.6	21
58	Optimization of reactive simulated moving bed systems with modulation of feed concentration for production of glycol ether ester. Journal of Chromatography A, 2014, 1360, 196-208.	1.8	20
59	Continuous production of a chiral amine in a packed bed reactor with co-immobilized amine dehydrogenase and formate dehydrogenase. Chemical Engineering Journal, 2021, 407, 127065.	6.6	20
60	Model-based design and experimental validation of simulated moving bed reactor for production of glycol ether ester. Chemical Engineering Journal, 2016, 301, 188-199.	6.6	19
61	Reactive crystallization of Î²-lactam antibiotics: strategies to enhance productivity and purity of ampicillin. Reaction Chemistry and Engineering, 2016, 1, 321-329.	1.9	19
62	Transesterification of propylene glycol methyl ether in chromatographic reactors using anion exchange resin as a catalyst. Journal of Chromatography A, 2016, 1466, 84-95.	1.8	17
63	Formiatâ€Oxidase (FOx) aus Aspergillus oryzae : ein Katalysator fÃ¼r verschiedene H 2 O 2 â€bhÃngige biokatalytische Oxidationen. Angewandte Chemie, 2019, 131, 7955-7959.	1.6	17
64	Photoirradiation Generates an Ultrastable 8-Formyl FAD Semiquinone Radical with Unusual Properties in Formate Oxidase. Biochemistry, 2018, 57, 5818-5826.	1.2	16
65	Conversion improvement for catalytic synthesis of propylene glycol methyl ether acetate by reactive chromatography: Experiments and parameter estimation. Chemical Engineering Journal, 2015, 259, 397-409.	6.6	15
66	Effect of peptide linker length and composition on immobilization and catalysis of leucine zipperâ€enzyme fusion proteins. AICHE Journal, 2018, 64, 2934-2946.	1.8	15
67	Kinetic model discrimination of penicillin G acylase thermal deactivation by non-isothermal continuous activity assay. Chemical Engineering Science, 2018, 187, 79-86.	1.9	15
68	FOx News: Towards Methanolâ€driven Biocatalytic Oxyfunctionalisation Reactions. ChemCatChem, 2020, 12, 2713-2716.	1.8	15
69	Crystallization Kinetics of Cephalexin Monohydrate in the Presence of Cephalexin Precursors. Crystal Growth and Design, 2019, 19, 5065-5074.	1.4	14
70	Continuous reactive crystallization of Î²-lactam antibiotics catalyzed by penicillin G acylase. Part II: Case study on ampicillin and product purity. Computers and Chemical Engineering, 2019, 126, 332-341.	2.0	14
71	Ampicillin Synthesis Using a Twoâ€Enzyme Cascade with Both Î±â€Amino Ester Hydrolase and Penicillin G Acylase. ChemCatChem, 2010, 2, 987-991.	1.8	13
72	Mechanistic studies of formate oxidase from Aspergillus oryzae : A novel member of the glucose-Methanol-choline oxidoreductase enzyme superfamily that oxidizes carbon acids. Archives of Biochemistry and Biophysics, 2018, 643, 24-31.	1.4	13

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73	Proteinâ€inorganic calciumâ€phosphate supraparticles as a robust platform for enzyme coâ€immobilization. Biotechnology and Bioengineering, 2020, 117, 1979-1989.	1.7	13
74	Deactivation of TEMâ€1 Î²â€Lactamase Investigated by Isothermal Batch and Nonâ€Isothermal Continuous Enzyme Membrane Reactor Methods. ChemCatChem, 2009, 1, 131-137.	1.8	12
75	Applying Direct Yellow 11 to a modified Simonsâ€™ staining assay. Cellulose, 2017, 24, 2367-2373.	2.4	12
76	Mutual Influence of Furfural and Furancarboxylic Acids on Their Solubility in Aqueous Solutions: Experiments and Perturbed-Chain Statistical Associating Fluid Theory (PC-SAFT) Predictions. Journal of Chemical & Engineering Data, 2018, 63, 1460-1470.	1.0	12
77	Similarities in Recalcitrant Structures of Industrial Nonâ€Kraft and Kraft Lignin. ChemSusChem, 2020, 13, 4624-4632.	3.6	12
78	Sparged but not stirred: Rapid, ADH-NADH oxidase catalyzed deracemization of alcohols in a bubble column. Chemical Engineering Journal, 2021, 417, 127909.	6.6	12
79	Amine dehydrogenases occur in nature. Nature Catalysis, 2019, 2, 288-289.	16.1	11
80	Engineering towards Nitroreductase Functionality in Eneâ€Reductase Scaffolds. ChemBioChem, 2015, 16, 811-818.	1.3	10
81	Engineered amine dehydrogenase exhibits altered kinetic mechanism compared to parent with implications for industrial application. Chemical Engineering Journal, 2019, 369, 634-640.	6.6	10
82	Modulation of the Formation of AÎ²- and Sup35NM-Based Amyloids by Complex Interplay of Specific and Nonspecific Ion Effects. Journal of Physical Chemistry B, 2018, 122, 4972-4981.	1.2	9
83	A high-throughput pH-based colorimetric assay: application focus on alpha/beta hydrolases. Analytical Biochemistry, 2018, 549, 80-90.	1.1	9
84	Solvent Selection for Lignin Value Prior to Pulping. ChemSusChem, 2020, 13, 267-273.	3.6	9
85	Model development for enzymatic reactive crystallization of Î²-lactam antibiotics: a reactionâ€“diffusion-crystallization approach. Reaction Chemistry and Engineering, 2020, 5, 2064-2080.	1.9	9
86	Reduced deactivation of mechanochemically delaminated hierarchical zeolite MCM-22 catalysts during 4-propylphenol cracking. Journal of Catalysis, 2022, 411, 187-192.	3.1	9
87	An effective chemical pretreatment method for lignocellulosic biomass with substituted imidazoles. Biotechnology Progress, 2015, 31, 25-34.	1.3	8
88	Experimental evaluation of simulated moving bed reactor for transesterification reaction synthesis of glycol ether ester. Adsorption, 2019, 25, 795-807.	1.4	8
89	Pore Blocking by Phenolates as Deactivation Path during the Cracking of 4-Propylphenol over ZSM-5. Catalysts, 2021, 11, 721.	1.6	8
90	Periodic wet milling as a solution to size-based separation of crystal products from biocatalyst for continuous reactive crystallization. Chemical Engineering Research and Design, 2022, 177, 473-483.	2.7	8

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91	In situ mixed donor synthesis of ampicillin with ethylene glycol coâ€solvent. Biotechnology and Bioengineering, 2014, 111, 1054-1058.	1.7	7
92	Reactive crystallization of selected enantiomers: Chemo-enzymatic stereoinversion of amino acids at supersaturated conditions. Chemical Engineering Science, 2015, 122, 416-425.	1.9	7
93	Direct Observation of Growth Rate Dispersion in the Enzymatic Reactive Crystallization of Ampicillin. Processes, 2019, 7, 390.	1.3	7
94	Techno-economic analysis of water precipitation for lignin value prior to pulping. Chemical Engineering Research and Design, 2019, 143, 4-10.	2.7	6
95	Biocatalytic Reductive Amination by Native Amine Dehydrogenases to Access Short Chiral Alkyl Amines and Amino Alcohols. Frontiers in Catalysis, 2021, 1, .	1.8	6
96	Tuning the Morphology of Proteinâ€“Inorganic Calciumâ€“Phosphate Supraparticles via Directed Assembly. Langmuir, 2020, 36, 15296-15308.	1.6	4
97	Purification of chimeric amine dehydrogenase using a tailor-made aqueous two-phase system - A case study. Journal of Molecular Liquids, 2021, 323, 114991.	2.3	4
98	Kinetic model development for Î±-amino ester hydrolase (AEH)-catalyzed synthesis of Î²-lactam antibiotics. Chemical Engineering Journal, 2021, 426, 131816.	6.6	4
99	Transesterification of propylene glycol methyl ether by reactive simulated moving bed chromatography using homogeneous catalyst. Adsorption, 2018, 24, 309-324.	1.4	3
100	Modeling Amyloid Aggregation Kinetics: A Case Study with Sup35NM. Journal of Physical Chemistry B, 2021, 125, 4955-4963.	1.2	3
101	Reactor Design and Optimization of Î±-Amino Ester Hydrolase- Catalyzed Synthesis of Cephalexin. Frontiers in Bioengineering and Biotechnology, 2022, 10, 826357.	2.0	3
102	Longâ€Term Biocatalyst Performance: Mechanistic Prediction and Continuous Nonâ€Isothermal Testing. ChemSusChem, 2022, , e202102701.	3.6	3
103	The role of residue C410 on activation of the human vitamin D receptor by various ligands. Journal of Steroid Biochemistry and Molecular Biology, 2012, 128, 76-86.	1.2	2
104	Cover Image, Volume 87, Issue 6. Proteins: Structure, Function and Bioinformatics, 2019, 87, C1-C1.	1.5	1
105	Evaluation of ionic equilibria in mixed-buffer isothermal titration calorimetry and continuously stirred tank reactors. International Journal of Pharmaceutics, 2021, 594, 120170.	2.6	1
106	Identifying interacting residues using Boolean Learning and Support Vector Machines: Case study on mRFP and DsRed proteins. Biotechnology Journal, 2008, 3, 63-73.	1.8	0